



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
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KING OF PRUSSIA, PA 19406-1415

February 7, 2012

Mr. Michael Colomb
Site Vice President
Entergy Nuclear Northeast
James A. FitzPatrick Nuclear Power Plant
P. O. Box 110
Lycoming, NY 13093

SUBJECT: JAMES A. FITZPATRICK NUCLEAR POWER PLANT - NRC INTEGRATED
INSPECTION REPORT 05000333/2011005

Dear Mr. Colomb:

On December 31, 2011, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your James A. FitzPatrick Nuclear Power Plant (FitzPatrick). The enclosed inspection report documents the inspection results which were discussed on January 23, 2012, with you and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

Based on the results of this inspection, this report documents two NRC-identified and two self-revealing findings of very low safety significance (Green). Three of these findings were determined to involve violations of NRC requirements. Additionally, a licensee-identified violation, which was determined to be of very low safety significance, is listed in this report. However, because of the very low safety significance and because the issues are entered into your corrective action program, the NRC is treating these findings as non-cited violations (NCVs) consistent with Section 2.3.2 of the NRC's Enforcement Policy. If you contest any NCV in this report, you should provide a response within 30 days of the date of the inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN.: Document Control Desk, Washington, DC 20555-0001; with a copies to the Regional Administrator, Region I; the Director, Office of Enforcement; United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Senior Resident Inspector at FitzPatrick. In addition, if you disagree with the cross-cutting aspect assigned to any finding in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region I, and the NRC Senior Resident Inspector at FitzPatrick.

In accordance with 10 CFR Part 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of the NRC's document system (ADAMS). ADAMS is accessible from the NRC Website at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

A handwritten signature in black ink, appearing to read "Mel Gray", with a long, sweeping horizontal line extending to the right.

Mel Gray, Chief
Reactor Projects Branch 2
Division of Reactor Projects

Docket No.: 50-333
License No.: DPR-59

Enclosure: Inspection Report 05000333/2011005
w/Attachment: Supplementary Information

cc w/encl: Distribution via ListServ

M. Colomb

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Sincerely,

/RA

Mel Gray, Chief
Reactor Projects Branch 2
Division of Reactor Projects

Docket No.: 50-333
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Enclosure: Inspection Report 05000333/2011005
w/Attachment: Supplementary Information

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U.S. NUCLEAR REGULATORY COMMISSION**REGION I**

Docket No.: 50-333

License No.: DPR-59

Report No.: 05000333/2011005

Licensee: Entergy Nuclear Northeast (Entergy)

Facility: James A. FitzPatrick Nuclear Power Plant

Location: Scriba, New York

Dates: October 1 through December 31, 2011

Inspectors: E. Knutson, Senior Resident Inspector
B. Sienel, Resident Inspector
B. Bickett, Senior Project Engineer
S. McCarver, Project Engineer
R. Rolph, Health Physicist

Approved by: Mel Gray, Chief
Reactor Projects Branch 2
Division of Reactor Projects

Enclosure

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SUMMARY OF FINDINGS

IR 05000333/2011005; 10/01/2011 - 12/31/2011; James A. FitzPatrick Nuclear Power Plant (FitzPatrick); Emergent Work Control, ALARA Planning and Controls, and Follow-up of Events.

The report covered a three-month period of inspection by resident inspectors and announced inspections by region-based inspectors. Four Green findings, three of which were non-cited violations (NCVs), were identified. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP). The cross-cutting aspects for the findings were determined using IMC 0310, "Components Within the Cross-Cutting Areas." Findings for which the SDP does not apply may be "Green" or be assigned a severity level after Nuclear Regulatory Commission (NRC) management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4, dated December 2006.

Cornerstone: Mitigating Systems

- Green. The inspectors identified a non-cited violation (NCV) of Technical Specification (TS) 3.3.1.1, "Reactor Protection System (RPS) Instrumentation," because FitzPatrick operators did not take required action within the allowed completion time in response to an RPS relay failure. Specifically, following failure of RPS channel 'B' shutdown scram reset interlock logic relay 5A-K17B, which caused the reactor mode switch to shutdown manual scram to be disabled, action was not taken by operators to insert a half-scam on RPS channel 'B' within one hour as required by TS 3.3.1.1 Condition C. After further evaluation of the issue, operators inserted a half scram on RPS channel 'B'. The issue was entered into the corrective action program (CAP) as condition report (CR)-JAF-2011-06625.

The finding was more than minor because it affected the equipment performance attribute of the Mitigating Systems cornerstone objective to ensure the availability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the delay in implementing the TS required actions resulted in additional accrual of more than two hours of reactor operation with the reactor mode switch to shutdown manual scram bypassed. The inspectors evaluated the finding using the Phase 1, "Initial Screening and Characterization of Findings," worksheet in Attachment 4 to IMC 0609, "Significance Determination Process." The inspectors determined this finding was not a design qualification deficiency resulting in a loss of functionality or operability, did not represent an actual loss of safety function of a system or train of equipment, and was not potentially risk significant due to external initiating events. Therefore, the inspectors determined the finding to be of very low safety significance (Green). This finding had a cross-cutting aspect in the area of Human Performance, decision making, because operators did not use conservative assumptions in decision making and promptly apply readily available information contained in the alarm response procedure and TS Bases to determine TS applicability for the alarm condition [H.1(b) per IMC0310]. (Section 1R13)

- Green. The inspectors identified a self-revealing NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," because Entergy personnel did not promptly correct the intermittent failure of reactor core isolation cooling (RCIC) steam admission valve 13MOV-131 to fully open on demand. Specifically, Entergy staff's troubleshooting performed in response to the October 29, 2010, partial valve opening was not adequate in scope to identify the cause of

Enclosure

the intermittent failure. As corrective action, a more extensive troubleshooting effort was undertaken by Entergy staff following a second failure of the valve to fully open on January 7, 2011, which was successful at identifying and correcting the problem. The issue was entered into the CAP as CR-JAF-2011-00123.

The finding was more than minor because it affected the equipment performance attribute of the Mitigating Systems cornerstone objective to ensure reliability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the loose electrical connections in the 13MOV-131 motor control circuit affected the reliability of the RCIC system. Since the RCIC pump achieved rated discharge flow and pressure on both occasions that 13MOV-131 failed to fully open, the inspectors concluded that RCIC remained capable of performing its design function during the period that this condition existed. The inspectors evaluated the finding using the Phase 1, "Initial Screening and Characterization of Findings," worksheet in Attachment 4 to IMC 0609, "Significance Determination Process." The inspectors determined this finding was not a design qualification deficiency resulting in a loss of functionality or operability, did not represent an actual loss of safety function of a system or train of equipment, and was not potentially risk significant due to external initiating events. Therefore, the inspectors determined the finding to be of very low safety significance (Green). The finding had a cross-cutting aspect in the area of Human Performance, work control, because Entergy personnel did not appropriately plan the scope of 13MOV-131 troubleshooting activity by incorporating consideration of the high risk significance of the RCIC system [H.3(a) per IMC0310]. (Section 4OA3)

Cornerstone: Radiation Safety

- Green. The inspectors identified a self-revealing finding that involved inadequate work planning relative to the 'A' recirculation pump replacement work during refueling outage R19 that resulted in additional unplanned collective exposure (39.168 person-rem compared to a work activity estimate of 15.831 person-rem). The actual job site conditions were not adequately evaluated by Entergy staff for interferences and the support work was not coordinated to prevent additional unnecessary exposure and did not meet the Radiation Work Permit (RWP) No. 10-0518 planned dose execution for the work activity. This inadequate evaluation lead to as-found interferences that required removal and reinstallation, and insufficient outage schedule coordination that resulted in several scaffold interferences with other outage tasks that caused avoidable scaffold rework and in unintended exposure that could have been avoided by Entergy personnel.

The finding was more than minor because it was associated with the Radiation Safety - Occupational Radiation Safety cornerstone attribute of program and process, and affected the cornerstone objective of protecting worker health and safety from exposure to radiation. Specifically, inadequate work planning resulted in unplanned, unintended collective exposure that was greater than 50 percent above the intended collective exposure and greater than five person-rem due to conditions that were reasonably within Entergy's ability to foresee and correct. The inspectors evaluated the finding using IMC 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process," and determined that the finding was of very low safety significance (Green) because the finding was due to As Low As Reasonably Achievable (ALARA) work control planning and the three year rolling

average collective exposure at FitzPatrick was less than 240 person-rem (146.593 person-rem for 2008-2010). The finding had a cross-cutting aspect in the area of Human Performance, work control, because Entergy's planned work activities did not adequately incorporate work site interferences or outage work coordination in the work control planning process [H.3(b) per IMC0310]. (Section 2RS2)

- Green. The inspectors identified a self-revealing NCV of TS 5.4, "Procedures," which requires that written procedures be implemented covering the activities in the applicable procedures recommended by Regulatory Guide 1.33, including procedures for RWPs and ALARA reviews. Specifically, as of December 12, 2011, post job reviews for most of the 2010 R-19 RWPs (52 of 55) had not been completed as required by procedure EN-RP-105, "Radiological Work Permits," Revision 10. This procedure requires post job reviews to be completed within 90 days from the end of the outage. The performance deficiency could lead to repeating errors and not planning the upcoming R-20 with needed improvements. Since planning for the R-20 outage had already begun, the inspectors concluded that lessons learned in the R-19 outage RWPs may not be incorporated into the R-20 RWPs and additional, avoidable exposure could be received. Entergy staff subsequently developed a tracking schedule to complete the reviews and entered the issue into the CAP as CR-JAF-2011-04152.

The finding was more than minor because it was associated with the Radiation Safety - Occupational Radiation Safety cornerstone attribute of program and process, and affected the cornerstone objective of protecting worker health and safety from exposure to radiation. Specifically, Entergy staff did not complete RWP close out documentation to identify lessons learned and actions to reduce worker exposure in subsequent refueling outages. The inspectors evaluated the finding using IMC 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process," and determined that the finding was of very low safety significance (Green) because it did not involve: (1) ALARA planning and controls, (2) an overexposure, (3) a substantial potential for overexposure, or (4) an impaired ability to assess dose. The finding had a cross-cutting aspect in the area of Human Performance, work practices, because Entergy personnel did not effectively communicate expectations regarding procedural compliance [H.4(b) per IMC0310]. (Section 2RS2)

Other Findings

A violation of very low safety significance that was identified by Entergy personnel was reviewed by the inspectors. Corrective actions taken or planned by Entergy personnel have been entered into FitzPatrick's corrective action program. This violation and corrective action tracking number are listed in Section 4OA7 of this report.

REPORT DETAILS

Summary of Plant Status

The James A. FitzPatrick Nuclear Power Plant (FitzPatrick) began the inspection period at 100 percent power. On November 14, 2011, operators reduced reactor power to 50 percent to repair several steam leaks on balance of plant equipment and to perform control rod blade interference monitoring. Operators returned the plant to 100 percent power on the same day. On December 2, 2011, operators reduced power to 50 percent to plug leaking main condenser tubes. Operators returned the plant to 100 percent power on December 4, 2011. On December 27, 2011, operators reduced power to 50 percent to plug leaking main condenser tubes, to perform a control rod sequence exchange, and to perform control rod blade interference testing. Operators returned the plant to 100 percent power on December 29, 2011, and remained at or near 100 percent power for the remainder of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01 - 1 sample)

a. Inspection Scope

The inspectors performed a review of the station's readiness for the onset of seasonal low temperatures. The review focused on the emergency diesel generator (EDG), 125 volt direct current (VDC) battery, and standby gas treatment systems. The inspectors reviewed the Updated Final Safety Analysis Report (UFSAR), TSs, control room logs, and the CAP to determine what temperatures or other seasonal weather could challenge these systems, and to ensure Entergy personnel had adequately prepared for these challenges. The inspectors reviewed station procedures, including the seasonal weather preparation procedure and applicable operating procedures. The inspectors performed walkdowns of the selected systems to ensure station personnel had identified issues that could challenge the operability of the systems during cold weather conditions. Documents reviewed for each section of this inspection report are listed in the Attachment.

These activities constituted one seasonal weather conditions inspection sample.

b. Findings

No findings were identified.

1R04 Equipment Alignment

.1 Partial System Walkdown (71111.04Q - 3 samples)

a. Inspection Scope

The inspectors performed partial walkdowns of the following systems:

- 'A' and 'C' EDGs during 'B' EDG maintenance on October 26, 2011
- 'B' and 'D' EDGs during 'C' EDG maintenance on November 15, 2011
- RCIC system following system maintenance on December 15, 2011

The inspectors selected these systems based on their risk-significance relative to the reactor safety cornerstones at the time they were inspected. The inspectors reviewed applicable operating procedures, system diagrams, the UFSAR, TSs, work orders (WOs), and CRs, in order to identify conditions that could have impacted system performance of their intended safety functions. The inspectors performed field walkdowns of accessible portions of the systems to verify system components and support equipment were aligned correctly and were operable. The inspectors examined the material condition of the components and observed operating parameters of equipment to verify that there were no deficiencies. The inspectors also reviewed whether Entergy staff had identified equipment issues and entered them into the CAP for resolution with the appropriate significance characterization, as required by 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action."

These activities constituted three partial system walkdown inspection samples.

b. Findings

No findings were identified.

1R05 Fire Protection

.1 Resident Inspector Quarterly Walkdowns (71111.05Q - 5 samples)

a. Inspection Scope

The inspectors conducted tours of the areas listed below to assess the material condition and operational status of fire protection features. The inspectors verified that station personnel controlled combustible materials and ignition sources in accordance with administrative procedures. The inspectors verified that fire protection and suppression equipment were available for use as specified in the area pre-fire plan, and passive fire barriers were maintained in good material condition. The inspectors also verified that station personnel implemented compensatory measures for out of service, degraded, or inoperable fire protection equipment, as applicable. The inspectors evaluated the fire protection program for conformance with the requirements of license condition 2.C (3), "Fire Protection."

- 'B' and 'D' EDG rooms and switchgear room, fire area/zone VI/EG-3, EG-4, EG-6, on November 15, 2011
- 'A' and 'B' station battery room complex, fire area/zone III/BR-1, BR-2, IV/BR-3, BR-4, XVI/BR-5, on November 15, 2011

- Cable spreading room, fire area/zone VII/CS-1, on November 29, 2011
- Reactor building (RB) 344 foot elevation, fire area/zone IX/RB-1A, on December 1, 2011
- RB 369 foot elevation, fire area/zone IX/RB-1A, on December 19, 2011

These activities constituted five quarterly fire protection inspection samples.

Findings

No findings were identified.

.2 Fire Protection - Drill Observation (71111.05A - 1 sample)

a. Inspection Scope

The inspectors observed an unannounced fire brigade drill scenario conducted on November 8, 2011, that involved a fire in the station reserve transformers. The inspectors evaluated the readiness of the plant fire brigade to fight fires. The inspectors verified that Entergy personnel identified deficiencies, openly discussed them in a self-critical manner at the debrief and took appropriate corrective actions as required. The inspectors evaluated specific attributes, when applicable, as follows:

- Proper wearing of turnout gear and self-contained breathing apparatus (SCBA)
- Proper use and layout of fire hoses
- Employment of appropriate fire-fighting techniques
- Sufficient fire-fighting equipment brought to the scene
- Effectiveness of command and control
- Search for victims and propagation of the fire into other plant areas
- Drill objectives met

These activities constituted one annual fire protection sample.

b. Findings

No findings were identified.

1R07 Heat Sink Performance (71111.07 - 1 sample)

a. Inspection Scope

The inspectors reviewed the results of the 'B' EDG jacket water cooler inspection that was performed by Entergy staff on October 26, 2011. This heat exchanger is cooled by the emergency service water system. The inspectors also discussed the results of this and past jacket water cooler inspections as well as the frequency of inspections with the service water system and heat exchanger program engineers to verify the inspection frequency was appropriate.

These activities constituted one heat sink performance inspection sample.

b. Findings

No findings were identified.

1R11 Licensed Operator Regualification Program (71111.11Q - 1 sample)

a. Inspection Scope

The inspectors observed licensed operator simulator training on November 16, 2011, which included simulated loss of a Division 2 motor control center, an isolable steam leak from the high pressure coolant injection (HPCI) system, loss of a condensate pump, a manual scram with failure of all control rods to insert, loss of all feed and condensate, and an emergency reactor pressure vessel depressurization. The inspectors evaluated operator performance during the simulated event and verified completion of risk significant operator actions, including the use of abnormal and emergency operating procedures. The inspectors assessed the clarity and effectiveness of communications, implementation of actions in response to alarms and degrading plant conditions, and the oversight and direction provided by the control room supervisor. The inspectors verified the accuracy and timeliness of the emergency classifications made by the shift manager. Additionally, the inspectors assessed the ability of the crew and training staff to identify and document crew performance problems.

These activities constituted one quarterly operator simulator training inspection sample.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12Q - 2 samples)

a. Inspection Scope

The inspectors reviewed the samples listed below to assess the effectiveness of maintenance activities on structures, systems, and components (SSCs) performance and reliability. The inspectors reviewed system health reports, corrective action program documents, maintenance work orders, and maintenance rule basis documents to ensure that Entergy personnel were identifying and properly evaluating performance problems within the scope of the maintenance rule. For each sample selected, the inspectors verified that the SSC was properly scoped into the maintenance rule in accordance with 10 CFR 50.65 and verified that the (a)(2) performance criteria established by staff were reasonable. As applicable, for SSCs classified as (a)(1), the inspectors assessed the adequacy of goals and corrective actions to return these SSCs to (a)(2). Additionally, the inspectors ensured that Entergy staff were identifying and addressing common cause failures that occurred within and across maintenance rule system boundaries when applicable.

- Containment air dilution
- EDG

These activities constituted two quarterly maintenance effectiveness inspection samples.

b. Findings

No findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13 - 4 samples)

a. Inspection Scope

The inspectors reviewed maintenance activities to verify that the appropriate risk assessments were performed prior to removing equipment for work. The inspectors reviewed whether risk assessments were performed as required by 10 CFR 50.65(a) (4), and were accurate and complete. When emergent work was performed, the inspectors reviewed whether plant risk was promptly reassessed and managed. The inspectors also walked down selected areas of the plant which became more risk significant because of the maintenance activities to ensure they were appropriately controlled to maintain the expected risk condition. The reviews focused on the following activities:

- Planned maintenance of the 'B' EDG during the week of October 24, 2011
- Planned outage of 115 kilovolt (kV) offsite power line 4 during the week of October 31, 2011
- Planned maintenance of 'C' EDG, steam leaks in the balance of plant, and control blade interference monitoring during the week of November 14, 2011
- Planned maintenance of 'B' and 'D' EDG, HPCI system, 'B' residual heat removal (RHR) system, and emergent maintenance to replace a 'B' reactor protection system (RPS) relay and repair a leak from the turbine building closed loop cooling system during the week of December 19, 2011

These activities constituted four maintenance risk assessments and emergent work control inspection samples.

b. Findings

Introduction: The inspectors identified an NCV of very low safety significance (Green) of TS 3.3.1.1, "Reactor Protection System (RPS) Instrumentation," because FitzPatrick operators did not take required action within the allowed TS completion time in response to an RPS relay failure. Specifically, following failure of RPS channel 'B' shutdown scram reset interlock logic relay 5A-K17B, which caused the reactor mode switch to shutdown manual scram to be disabled, action was not taken by operators to insert a half-scam on RPS channel 'B' within one hour as required by TS 3.3.1.1 Condition C.

Description: At 8:05 p.m. on December 19, 2011, control room annunciator 09-5-1-33, "Mode Switch in Shutdown Trip Bypassed," alarmed. Operators began investigation of the cause and reviewed the TS to determine what actions were required. Operators determined that RPS channel 'B' should be considered inoperable, and therefore, that TS 3.3.1.1, "Reactor Protection System (RPS) Instrumentation," Condition A, "One or more required channels inoperable," applied. The required action for this condition was to place the associated trip system in trip, with an allowed completion time of 12 hours.

Operators did not immediately trip RPS channel 'B' because, in part, the resultant half scram would place the plant in a less reliable condition, in that a single spurious trip signal to the remaining RPS channel (channel 'A') would cause an unnecessary reactor scram.

The reactor mode switch is a four position switch that controls the operating modes of the RPS. One of the functions of the reactor mode switch in the "shutdown" position is to initiate a manual reactor scram. Since placing the reactor mode switch in shutdown is an immediate operator action following a scram, this function serves to enforce the signal that produced the scram. This scram signal is automatically bypassed by design two seconds after it is applied, to allow the scram to be manually reset (i.e., allow the two RPS channels to be reenergized). This action is desirable because it restores the normal valve lineup in the control rod drive hydraulic system, which stops water from being ported through the control rod drive mechanisms into the reactor vessel.

During Entergy staff's review of the condition, operators determined that RPS channel 'B' shutdown scram reset interlock logic relay 5A-K17B was deenergized and appeared to have burned out. At approximately 11:00 p.m., operators realized that this condition caused the reactor mode switch to shutdown manual scram to be inoperable; that was because the bypass had been applied to RPS channel 'B' when 5A-K17B failed, therefore the reactor mode switch to shutdown manual scram would only result in a half scram on RPS channel 'A'. Since TS Table 3.3.1.1-1 includes the reactor mode switch to shutdown manual scram as a required trip function, TS 3.3.1.1 Condition C, "One or more functions with RPS trip capability not maintained," also applied, with an allowed completion time of one hour. At 11:17 p.m. on December 19, 2011, three hours and 12 minutes after the alarm had occurred, operators inserted a half scram on RPS channel 'B'.

During inspection of this issue, the inspectors reviewed the TS basis for the reactor mode switch to shutdown manual scram, which states, "The reactor mode switch will scram the reactor if it is placed in the shutdown position . . . Two channels of Reactor Mode Switch - Shutdown Position Function, with one channel in each trip system, are available and required to be Operable." The inspectors also reviewed the applicable alarm response procedure (ARP) 09-5-1-33, "Mode SW [switch] in Shutdown Trip Bypassed," Revision 2. The inspectors noted that the "Automatic Actions" in the procedure stated, "Reactor mode switch to shutdown manual scram is bypassed." The inspectors considered that this information should have been immediately available to the operators, because review of the applicable ARP is the expected initial response to any alarm condition. Since the TS bases indicated that the reactor mode switch to shutdown manual scram is a reactor trip function, and the ARP specifically stated the plant condition associated with the alarm, the inspectors concluded that there had been adequate information readily available to the operators to have determined that TS 3.3.1.1 Condition C was applicable, and to have inserted a half scram on RPS channel 'B' within one hour of the alarm having occurred.

The inspectors noted that, if the TS 3.3.1.1 Condition C required action and associated completion time were not met, TS 3.3.1.1 Condition G required that the plant be in Mode 3 (hot shutdown) within 12 hours. Although this completion time had been

satisfied, the inspectors also noted that there had been no reason that the required action of Condition C (to insert a half scram) could not be performed. The inspectors discussed their conclusions with FitzPatrick management and the issue was entered into the CAP as CR-JAF-2011-06625 for further evaluation.

Analysis: The inspectors determined that control room operators not promptly entering TS 3.3.1.1 Condition C in response to the "mode switch in shutdown trip bypassed" alarm was a performance deficiency. The finding was more than minor because it affected equipment performance attribute of the Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, it resulted in additional accrual of more than two hours of reactor operation with the reactor mode switch to shutdown manual scram bypassed. The inspectors evaluated the finding using the Phase 1, "Initial Screening and Characterization of Findings," worksheet in Attachment 4 to IMC 0609, "Significance Determination Process." The inspectors determined this finding was not a design qualification deficiency resulting in a loss of functionality or operability, did not represent an actual loss of safety function of a system or train of equipment, and was not potentially risk significant due to a seismic, fire, or severe weather initiating event. Therefore, the inspectors determined the finding to be of very low safety significance (Green).

This finding had a cross-cutting aspect in the area of Human Performance, decision making, because operators did not use conservative assumptions in decision making and promptly apply readily available information contained in the alarm response procedure and TS Bases to determine TS applicability for the alarm condition [H.1(b)].

Enforcement: TS 3.3.1.1, "Reactor Protection System (RPS) Instrumentation," Condition C, "One or more Functions with RPS trip capability not maintained," while the plant is in Mode 1 or 2, requires that the RPS trip capability be restored within one hour. TS Table 3.3.1.1-1, "Reactor Protection System Instrumentation," Function 10 identifies the, "Reactor mode switch - shutdown position," as a required function. Contrary to the above, following a loss of the reactor mode switch to shutdown manual scram function due to failure of RPS channel 'B' shutdown scram reset interlock logic relay 5A-K17B at 8:05 p.m. on December 19, 2011, while the plant was in Mode 1, operators did not restore the affected RPS trip capability by inserting a half scram on RPS channel 'B' until 11:17 p.m., December 19, 2011, a period in excess of three hours, despite the availability of information to operators to support completion within one hour. Because this issue is of very low safety significance (Green) and Entergy personnel entered this issue into their CAP as CR-JAF-2011-06625, this finding is being treated as an NCV consistent with the NRC Enforcement Policy. **(NCV 05000333/2011005-01, Mode Switch in Shutdown Scram Function Inoperable in Excess of the TS Allowed Outage Time due to Personnel Error)**

1R15 Operability Determinations and Functionality Assessments (71111.15 - 3 samples)

a. Inspection Scope

The inspectors reviewed operability determinations for the following degraded or non-conforming conditions:

- CR-JAF-2011-05372 regarding cover gasket leakage on the 'A' RHR service water strainer, 10S-5A1, on October 20, 2011
- CR-JAF-2011-06067 concerning the operability of 'D' EDG while the fuel oil transfer pump selector switch was mispositioned such that the lead pump would not start when required, on November 21, 2011
- CR-JAF-2011-06536 regarding 24 VDC battery charger 711BC-4 low voltage alarm on December 15, 2011

The inspectors selected these issues based on the risk significance of the associated components and systems. The inspectors evaluated the technical adequacy of the operability determinations to assess whether TS operability was properly justified and the subject component or system remained available such that no unrecognized increase in risk occurred. The inspectors compared the operability and design criteria in the appropriate sections of the TS and UFSAR to Entergy personnel's evaluations to determine whether the components or systems were operable. Where compensatory measures were required to maintain operability, the inspectors determined whether the measures in place would function as intended and were properly controlled by Entergy personnel. The inspectors determined, where appropriate, compliance with bounding limitations associated with the evaluations.

These activities constituted three operability evaluation inspection samples.

b. Findings

No findings were identified.

1R18 Plant Modifications (71111.18 - 1 sample)

a. Inspection Scope

The inspectors reviewed the temporary modification listed below to determine whether the modification affected the safety functions of systems that are important to safety. The inspectors reviewed 10 CFR 50.59 documentation and post-modification testing results and verified that the temporary modification did not degrade the design basis, licensing basis, and performance capability of the affected system.

- Engineering Change (EC) 30962, Temporary Alarm Setpoint Change for 20TIS-534B Reactor Building Equipment Sump Temp.

These activities constituted one temporary modification inspection sample.

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19 - 5 samples)

a. Inspection Scope

The inspectors reviewed post-maintenance tests (PMTs) for the maintenance activities listed below to verify that procedures and test activities ensured system operability and functional capability. The inspectors reviewed the test procedures to verify that they adequately tested the safety functions that may have been affected by the maintenance activity, that the acceptance criteria in the procedure was consistent with the information in the applicable licensing basis and/or design basis documents (DBDs), and that the procedure had been properly reviewed and approved. The inspectors also witnessed the test or reviewed test data to verify that the test results adequately demonstrated restoration of the affected safety functions.

- WO 00283141 to replace the 4 kV emergency bus 10600 degraded voltage time delay relay, on October 28, 2011
- WO 00279627 to replace the -15.00 VDC power supply for stack radiation monitor 17RM-53A, on November 9, 2011
- WO 52040138-06 to replace EDG vent system C exhaust system damper operators OP1, OP2, OP3, and OP4, on November 18, 2011
- WO 297765-04 to troubleshoot failure of 'D' EDG fuel oil transfer pump 93P1-D1 to operate prior to receipt of the day tank low level alarm, on November 22, 2011
- WO 00291119 to open, inspect, and replace valve internals for RCIC full flow test to condensate storage tanks check valve, on December 14, 2011

These activities constituted five PMT inspection samples.

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22 - 5 samples)

a. Inspection Scope

The inspectors witnessed performance of surveillance tests (STs) and/or reviewed test data of selected risk-significant SSCs to assess whether the SSCs satisfied TSs, UFSAR, technical requirements manual, and station procedure requirements. The inspectors verified that test acceptance criteria were clear, demonstrated operational readiness and were consistent with DBDs, test instrumentation had current calibrations and the range and accuracy for the application, tests were performed as written, and applicable prerequisites were satisfied. Upon ST completion, the inspectors verified that equipment was returned to the status specified to perform its safety function. The inspectors reviewed the following STs:

- ST-3PA, "Core Spray Loop A Quarterly Operability Test (IST [in-service test])," Revision 20, on November 10, 2011
- SP-01.02, "Reactor Water Sampling and Analysis," Revision 23, on November 17, 2011
- ST-6HB, "Standby Liquid Control B Side Quarterly Operability Test (IST)," Revision 6, on November 23, 2011

- ISP-94A-MG, "Reactor Protection System Electrical Protection Assembly "A" MG [motor-generator] Functional/Calibration," Revision 4, on December 9, 2011
- ISP-23A, "Emergency Service Water Lockout Matrix Instrument Channel Calibration," Revision 2, on December 13, 2011

These activities represented five surveillance testing inspection samples.

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness

1EP6 Drill Evaluation (71114.06 - 2 samples)

.1 Emergency Preparedness Drill Observation

a. Inspection Scope

The inspectors evaluated the conduct of a routine FitzPatrick emergency drill on November 30, 2011, to identify weaknesses and deficiencies in the classification, notification, and protective action recommendation development activities. The inspectors observed emergency response operations in the simulator and, technical support center (TSC), and emergency operations facility to determine whether the event classifications, notifications, and protective action recommendations were performed in accordance with procedures. The inspectors also attended the TSC drill critique to compare inspector observations with those identified by Entergy staff in order to evaluate the staff's critique and to verify whether Entergy staff were properly identifying weaknesses and entering them into the CAP.

These activities represented one drill evaluation inspection sample.

b. Findings

No findings were identified.

.2 Training Observation

a. Inspection Scope

The inspectors observed a simulator training evolution for FitzPatrick licensed operators on June 20, 2011 (omitted in error from Inspection Report 05000333/2011003), which required emergency plan implementation by an operations crew. Entergy staff planned for this evolution to be evaluated and included in performance indicator (PI) data regarding drill and exercise performance. The inspectors observed event classification and notification activities performed by the crew. The inspectors also attended the post-evolution critique for the scenario. The focus of the inspectors' activities was to note any

weaknesses and deficiencies in the crew's performance and ensure that Entergy evaluators noted the same issues and entered them into the CAP.

These activities represented one simulator training evaluation inspection sample.

b. Findings

No findings were identified.

2. **RADIATION SAFETY**

Cornerstones: Occupational Radiation Safety and Public Radiation Safety

2RS2 Occupational ALARA Planning and Controls (71124.02 - 1 sample)

a. Inspection Scope

During the period from December 12, 2011, through December 15, 2011, the inspectors conducted the following activities to verify that Entergy staff was properly implementing operational, engineering, and administrative controls to maintain personnel exposure ALARA. Implementation of these controls was reviewed against the criteria contained in 10 CFR Part 20, applicable industry standards, and station procedures.

Radiological Work Planning

- The inspectors obtained a list of the work activities ranked by estimated exposure for the most recent refueling outage, R-19 (2010).
- The inspectors reviewed the ALARA work activity evaluations, exposure estimates, and exposure control requirements.
- The inspectors verified Entergy staff identified appropriate dose mitigation, defined reasonable dose goals, included decreased worker efficiency from use of respirators and heat stress, and included remote technologies.
- The inspectors compared the actual exposure received with the dose estimates and the actual hours with the estimated hours.

Verification of Dose Estimates and Exposure Tracking Systems

- The inspectors reviewed the assumptions and basis described in the R-19 RWP and ALARA packages for 'A' reactor recirculating pump replacement, safety relief valve work, reactor disassembly/reassembly, in-service inspection activities, and refueling activities. The inspectors reviewed the "ALARA" and the "ALARA and RWP Preparation" procedures to determine Entergy staff's methodology for estimating exposures for specific work activities.
- The inspectors verified, for the above activities, that Entergy staff had established measures to track, trend, and adjust occupational dose estimates for ongoing work activities. The inspectors verified trigger points were used to prompt additional reviews.
- The inspectors reviewed Entergy staff's method for adjusting exposure estimates when unexpected changes in scope, dose rates, or emergent work were encountered.

Problem Identification and Resolution

- The inspectors verified that problems associated with ALARA planning and controls were identified in the CAP and were properly addressed.

b. Findings

.1 Inadequate Work Planning for 'A' Reactor Recirculation Pump Replacement

Introduction: The inspectors identified a self-revealing finding of very low safety significance (Green) because Entergy personnel did not adequately plan and coordinate R-19 work activities to prevent unnecessary exposure consistent with the original dose estimate as described in RWP No. 10-0518. Specifically, inadequate work planning and coordination issues relative to the reactor recirculation pump replacement resulted in an unplanned collective exposure of 39.168 person-rem compared to an original work estimated dose of 15.831 person-rem.

Description: FitzPatrick RWP No. 10-0518 provided the applicable plan for dose execution related to the 'A' reactor recirculation pump replacement work during R-19. The activity was planned by Entergy personnel prior to the refueling outage using the normal outage planning and scheduling process. The inspectors determined the actual versus planned job site conditions were not adequately evaluated by Entergy personnel for interferences and support work involving scaffolding. Specifically, the inspectors determined there was a lack of in-field walkdowns by Entergy staff prior to the activity that resulted in unidentified interferences. As a result, Entergy staff received additional unnecessary exposure.

The inspectors determined that in-field high radiation work resulted in additional collective exposure that could have been avoided if station personnel had performed sufficient work activity planning and radiation protection had stopped high radiation work until project management provided updated work status and coordination. The inspectors determined the actual work activity exposure of 39.168 person-rem was 147 percent greater than the original estimate of 15.831 person-rem for the 'A' reactor recirculation pump replacement. Entergy personnel entered the issue into the CAP as CR-JAF-2010-05591.

Analysis: The inspectors identified a performance deficiency because Entergy personnel did not adequately plan and prevent unnecessary exposure during planned work activities. The finding was more than minor because it was associated with the Radiation Safety - Occupational Radiation Safety cornerstone attribute of program and process, and affected the cornerstone objective of protecting worker health and safety from exposure to radiation. Specifically, the finding involved actual collective exposure greater than five person-rem that was greater than 50 percent above the estimated or intended exposure. Additionally, this finding is similar to the "greater than minor" example provided in IMC 0612, Appendix E (Example 6.i, related to ALARA planning). The inspectors evaluated this finding in accordance with IMC 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process," and determined

that it was of very low safety significance (Green) because it involved an ALARA planning issue and FitzPatrick's three year rolling average collective dose history was less than 240 person-rem (146.593 person-rem for 2008-2010).

This finding had a cross-cutting aspect in the area of Human Performance, work control, because Entergy personnel's planned work activities did not adequately incorporate the work site interferences or outage work coordination in the work control planning process [H.3(b)].

Enforcement: No violation of regulatory requirements was identified. The ALARA rule (10 CFR 20.1101) Statements of Consideration indicates that compliance with the ALARA requirement will be judged on whether the licensee has incorporated measures to track and, if necessary, to reduce exposures, and not whether exposures and doses represent an absolute minimum or whether the licensee has used all possible methods to reduce exposures. The overall exposure performance of a nuclear power plant is used to determine its compliance with the ALARA rule. Entergy personnel entered the issue into the CAP as CR-JAF-2010-05591. Since Fitzpatrick's three year rolling average collective dose (146.593 person-rem for 2008-2010) is below a three year rolling average of 240 person-rem and FitzPatrick has an established ALARA program to reduce exposure consistent with the 10 CFR Part 20.1101 Statement of Consideration, no violation of 10 CFR Part 20.1101(b) was identified. **(FIN 05000333/2011005-02, Inadequate Work Planning for 'A' Reactor Recirculation Pump Replacement)**

.2 Failure to Follow Radiation Protection Procedures

Introduction: The inspectors identified a self-revealing NCV of very low safety significance (Green) of TS 5.4, "Procedures," because Entergy personnel did not adequately implement radiation protection procedures for completing RWP close out documentation. Specifically, Entergy staff did not complete the RWP close out documentation within 90 days after the R-19 refueling outage.

Description: The R-19 refueling outage ended in November 2010. The inspectors determined that, as of December 12, 2011, only 3 of 55 outage RWPs had close out documentation. Procedure EN-RP-105, "Radiological Work Permits," Revision 10, requires RWP close out and post job ALARA reviews to be completed within 90 days from the end of the outage. By not completing the documentation within the 90 days, the inspector concluded that Entergy personnel could miss opportunities to identify lessons learned and implement corrective actions for improvement necessary for subsequent outages. The inspectors noted that planning for R-20 outage had already begun.

Analysis: The inspectors determined that failure to complete the RWP close out documentation within the 90 day requirement was a performance deficiency. The finding was more than minor because it was associated with the Radiation Safety - Occupational Radiation Safety cornerstone attribute of program and process and affected the cornerstone objective of protecting worker health and safety from exposure to radiation. Specifically, Entergy staff did not complete RWP close out documentation to identify lessons learned and actions to reduce worker exposure in subsequent refueling outages. Since planning for the R-20 outage had already begun, lessons learned in the R-19 outage RWPs may not have been incorporated into the R-20 RWPs and potential additional unnecessary exposure could be avoided. Using IMC 0609,

Appendix C, "Occupational Radiation Safety Significance Determination Process," the inspectors determined that the finding screened as very low safety significance (Green) because it did not involve: (1) ALARA planning and controls, (2) an overexposure, (3) a substantial potential for overexposure, or (4) an impaired ability to assess dose.

The finding had a cross-cutting aspect in the area of Human Performance, work practices, because Entergy personnel did not communicate expectations regarding procedural compliance [H.4(b)].

Enforcement: FitzPatrick TS 5.4.1.a. requires that Entergy establish, implement, and maintain procedures specified in Regulatory Guide (RG) 1.33, Revision 2, Appendix A. RG 1.33, Appendix A, Section 7.(e) specifies procedures for RWPs be established and implemented. Procedure EN-RP-105 requires RWP close out and post job ALARA Reviews to be completed within 90 days from the end of the outage. Contrary to the above, as of December 12, 2011, only three of 55 RWP close out documents were completed for R-19 which ended in November 2010. Because this finding is of very low safety significance and has been entered into the licensee's CAP as CR-JAF-2011-04152, this violation is being treated as an NCV, consistent with NRC Enforcement Policy. **(NCV 05000333/2011005-03, Failure to Follow Radiation Protection Procedures)**

2RS3 In-Plant Airborne Radioactivity Control and Mitigation (71124.03 - 1 sample)

a. Inspection Scope

During the period December 12 through 15, 2011, the inspectors conducted the following activities to verify that Entergy staff was controlling in-plant airborne concentrations consistent with ALARA. Implementation of these controls was reviewed against the criteria contained in 10 CFR Part 20, applicable industry standards, and station procedures.

Inspection Planning

- The inspectors reviewed FitzPatrick's procedures for maintenance, inspection, and use of respiratory protection equipment.
- The inspectors verified there were no reported PIs.

Use of Respiratory Protection Devices

- The inspectors verified respiratory protection devices used were National Institute for Occupational Safety and Health (NIOSH) certified.
- The inspectors verified the air used in SCBA was tested and met greater than or equal to Grade D quality.
- The inspectors verified several individuals on the fire brigade and emergency responders were deemed fit to use the devices by a physician.
- The inspectors verified training records for several individuals deemed fit to use respiratory devices.

Self-Contained Breathing Apparatus for Emergency Use

- The inspectors observed the monthly inspection of four SCBAs staged in the outage command center and the control room. The inspectors verified FitzPatrick personnel's capability to refill and transport bottles to and from the control room and the operations support center during emergency conditions.
- The inspectors verified control room operators and shift radiation protection technicians were trained and qualified in the use of SCBAs. The inspectors also verified personnel assigned to fill bottles were trained and qualified to that task.
- The inspectors verified appropriate mask sizes were available and that the control room operators on duty had no facial hair that would interfere with the sealing surface of the face seal. The inspectors verified that corrective lenses for those operators that require them were kept readily available in the control room.
- The inspectors reviewed maintenance records for the four SCBAs inspected and verified any work performed was done by a contractor with certified training.

b. Findings

No findings were identified.

4. **OTHER ACTIVITIES**

4OA1 Performance Indicator Verification (71151)

.1 Mitigating Systems Performance Index (5 samples)

a. Inspection Scope

The inspectors reviewed FitzPatrick's submittal of the Mitigating Systems Performance Index (MSPI) for the following systems for the period of October 1, 2010 through September 30, 2011.

- MSPI, emergency alternating current power system
- MSPI, high pressure injection system
- MSPI, heat removal system
- MSPI, residual heat removal system
- MSPI, cooling water systems

To determine the accuracy of the performance indicator data reported during those periods, the inspectors used definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6. The inspectors also reviewed station operator narrative logs, CRs, MSPI derivation reports, licensee event reports (LERs), and NRC integrated inspection reports to validate the accuracy of the submittals.

b. Findings

No findings were identified.

.2 Occupational Exposure Control Effectiveness Performance Index (1 sample)

a. Inspection Scope

The inspectors reviewed implementation of the licensee's Occupational Exposure Control Effectiveness PI Program. Specifically, the inspectors reviewed recent condition reports, and associated documents, for occurrences involving locked high radiation areas, very high radiation areas, and unplanned exposures from the fourth quarter of 2010 through the third quarter of 2011.

b. Findings

No findings were identified.

.3 RETS/ODCM [radiological effluent occurrences/Offsite Dose Calculation Manual] Radiological Effluent Performance Index (1 sample)

a. Inspection Scope

The inspectors reviewed relevant effluent release reports for the fourth quarter of 2010 through the third quarter of 2011, for issues related to the public radiation safety performance indicator, which measures radiological effluent release occurrences that exceed 1.5 millirem/quarter whole body or 5.0 millirem/quarter organ dose for liquid effluents; 5 millirads/quarter gamma air dose, 10 millirads/quarter beta air dose, and 7.5 millirads/quarter for organ dose for gaseous effluents.

b. Findings

No findings were identified.

4OA2 Problem Identification and Resolution (71152 - 3 samples)

.1 Routine Review of Problem Identification and Resolution Activities

a. Inspection Scope

As required by Inspection Procedure 71152, "Problem Identification and Resolution," the inspectors routinely reviewed issues during baseline inspection activities and plant status reviews to verify that Entergy staff entered issues into the CAP at an appropriate threshold, gave adequate attention to timely corrective actions, and identified and addressed adverse trends. In order to assist with the identification of repetitive equipment failures and specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into the CAP and periodically attended condition report screening meetings.

b. Findings and Observations

No findings were identified.

.2 Semi-Annual Trend Review

a. Inspection Scope

The inspectors performed a semi-annual review of site issues, as required by Inspection Procedure 71152, "Problem Identification and Resolution," to identify trends that might indicate the existence of more significant safety issues. In this review, the inspectors included repetitive or closely-related issues that may have been documented by Entergy personnel outside the CAP, such as trend reports, performance indicators, major equipment problem lists, systems health reports, maintenance rule assessments, and maintenance or CAP backlogs. The inspectors also reviewed the CAP database for the third and fourth quarters of 2011 to assess CRs written in various subject areas (equipment problems, human performance issues, etc.), as well as individual issues identified during the NRC's daily CR review (Section 4OA2.1). The inspectors reviewed the FitzPatrick quarterly trend report for the third quarter of 2011, conducted under EN-LI-121, "Entergy Trending Process," to verify that Entergy personnel were appropriately evaluating and trending adverse conditions in accordance with applicable procedures.

b. Findings and Observations

No findings were identified.

The inspectors evaluated a sample of departments that are required to provide input into the quarterly trend reports, which included maintenance, engineering, and operations departments. This review included a sample of issues and events that occurred over the course of the past two quarters to objectively determine whether issues were appropriately considered or ruled as emerging, adverse, or monitored trends. The inspectors verified that these issues were addressed within the scope of the CAP, or through department review and documentation in the quarterly trend report for overall assessment. For example, the inspectors noted that consistent with an increase in spurious upscale alarms in the average power range monitor (APRM) system that have occurred over several months, Entergy personnel had appropriately identified APRM lamp indications as an adverse trend and developed an action plan to address this issue.

.3 Annual Sample: Review of a Reactor Vessel High Level Main Turbine Trip Switch Exceeding Surveillance Test Acceptance Criteria

a. Inspection Scope

The inspectors selected CR-JAF-2010-06572 as a problem identification and resolution sample for detailed review. This CR documented that on September 17, 2010, the as-found trip setpoint for the 'A' reactor vessel high level main turbine trip level switch, 06LS-121A, exceeded the TS acceptance criteria during a routine surveillance and was recalibrated. The inspectors reviewed the equipment failure and apparent cause evaluation (ACE). The inspectors assessed Entergy staff's problem identification threshold, cause analyses, extent of condition review, and the prioritization and timeliness of their corrective actions to determine whether the staff was appropriately identifying, characterizing, and correcting problems associated with this issue and whether the planned and completed corrective actions were appropriate. The inspectors compared the actions taken to the requirements of the CAP and 10 CFR 50, Appendix B.

b. Findings and Observations

No findings were identified. The inspectors determined Entergy staff's overall response to the issue was commensurate with its safety significance. The ACE and corrective actions were reasonable and appropriate.

Entergy personnel determined the apparent cause of the limit switch surveillance test failure was related to an electrolytic capacitor installed across the input terminals of the level switch which either was leaking or could not respond to the input signal as fast as the technician could input the signal. Therefore, the apparent causes documented were that maintenance practices did not provide a consistent input rate of change into the limit switch during testing, and, the capacitor was approximately 40 years old and was not in the preventive maintenance (PM) program. Entergy staff also determined that, although the specific component was out of tolerance high, the results of the entire loop calibration showed that the function for this channel would have occurred within the TS required value. Entergy staff's extent of condition review identified additional capacitors to be addressed. Corrective actions included revising the test procedure to either develop a new method to input the signal or direct that it be done slowly and to add the affected capacitors to the PM program for replacement as soon as practicable.

Entergy personnel determined the PM activities should be incorporated into the program and completed during the 2012 refueling outage. However, the inspectors identified they had been scheduled to be performed in the 2014 and 2016 refueling outages. Entergy personnel initiated CR-JAF-2011-06470 and CR-JAF-2011-06472 to correct the conditions as intended in the original CR or reassess the priority in accordance with the CAP. This issue was determined to be minor because no equipment operability or functionality was significantly affected. In accordance with IMC 0612, "Power Reactor Inspection Reports," the above issue constituted a violation of minor significance that is not subject to enforcement action in accordance with the Enforcement Policy.

.4 Annual Sample: Response to NRC Information Notice 2010-27, "Ventilation System Preventive Maintenance And Design Issues"

a. Inspection Scope

The inspectors performed an in-depth review of condition report CR-JAF-2011-00171, concerning the station review of NRC Information Notice (IN) 2010-27, "Ventilation System Preventive Maintenance and Design Issues." This IN discusses recent operating experience concerning ventilation system preventive maintenance and design issues, including instances involving the control room habitability system. Specifically, a design weakness in the automatic ventilation shift logic at one nuclear power plant resulted in smoke from a fire outside of the plant being drawn into the control room when the system detected smoke and shifted control room ventilation into the smoke removal mode. At another plant, an earthquake caused a release of dust into the control room by the ventilation system as the result of inadequate periodic cleaning and, along with numerous alarms caused by the earthquake, contributed to the operators' decision to manually scram the reactor. At a third plant, unexpected airflow rates with the standby service water pump house ventilation system operating in different modes led to identification of a history of inadequate cleaning and maintenance on the intake screens and dampers.

The inspectors assessed Entergy's cause analysis, extent of condition reviews, and the prioritization and timeliness of corrective actions to determine whether Entergy staff were appropriately identifying, characterizing, and correcting problems associated with this IN and whether the corrective actions were appropriate. The inspectors compared the actions taken to the requirements of the CAP and 10 CFR 50, Appendix B.

b. Findings and Observations

No findings were identified.

At FitzPatrick, there is a smoke detector located in the control room ventilation supply ducting, but it has no automatic functions associated with ventilation modes. Therefore, Entergy staff concluded that the first issue was not applicable. The inspectors considered that this response was appropriate.

In response to the second issue, Entergy staff noted that the control room ventilation supply passes through two filters that are monitored by alarmed differential pressure switches. However, dust that originates downstream the filters would have nothing to stop it from entering the control room. Therefore, Entergy staff assigned an action to perform a one-time inspection of the control room diffuser ducts to determine whether periodic cleaning was necessary. The actual action taken by staff was that a visual inspection was performed from the outside of two of the 20 control room diffuser ducts, and noted to be free of dust. On this basis, Entergy personnel accepted the action as having been completed. The inspectors considered that a larger sampling and more intrusive inspection would have provided a stronger basis for closure of this action. Concerning the third issue, Entergy staff noted there are two safety related ventilation fans that supply the screenwell, and that the associated intakes were inspected incidentally during motor greasing that is performed every three years. The dampers associated with these fans are replaced every 10 years and there is no periodic scheduled maintenance to lubricate the damper linkages because this replacement frequency is considered adequate. Therefore, Entergy staff concluded that no corrective actions were necessary with respect to this issue. The inspectors noted that, in the case of the third issue, the IN indicated that "incidental" inspection had been ineffective in identifying the need for ventilation system maintenance. Additionally, the inspectors noted that at least 18 CRs had been written in 2011 concerning safety and non-safety related ventilation damper functional issues.

The inspectors concluded that Entergy staff's review of IN 2010-27 was adequate, but potentially could have identified more opportunities for preparedness and performance improvements. None of the observations made during the inspectors' review constituted violations of regulatory requirements.

4OA3 Follow-up of Events and Notices of Enforcement Discretion (71153 - 2 samples)

- .1 (Closed) LER 05000333/2011001-00 and -01, Reactor Core Isolation Cooling System Inoperable Longer than Allowed by Technical Specifications

a. Inspection Scope

On January 7, 2011, the RCIC system steam admission valve, 13MOV-131, did not fully open on demand while performing quarterly system surveillance testing. Entergy staff's troubleshooting determined the cause to have been loose electrical connections in the motor operated valve (MOV) motor control circuit, apparently as a result or consequence of maintenance that had been performed in September 2010, during R-19. A similar failure of 13MOV-131 to fully open had occurred on October 29, 2010, however, following stem lubrication, the valve had operated properly. Given the intermittent nature of the actual cause of failure, Entergy staff concluded that 13MOV-131 should be considered to have been inoperable from the time that the RCIC system was required to be operable during startup from R-19 (October 16, 2010) until the condition was corrected on January 8, 2011. TS 3.5.3 requires the RCIC system to be operable in Modes 1, 2, and 3, with reactor steam dome pressure greater than 150 pounds per square inch gauge (psig) and provides an allowed outage time of 14 days.

b. Findings

Introduction: The inspectors identified an NCV of very low safety significance (Green) of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," because Entergy staff did not promptly correct the intermittent failure of RCIC steam admission valve 13MOV-131 to fully open on demand. Specifically, Entergy staff's troubleshooting performed in response to the October 29, 2010 partial valve opening was of limited scope and not adequate to identify the cause of the intermittent failure at that time.

Description: After the initial failure of 13MOV-131 to fully open on October 29, 2010, Entergy staff's troubleshooting identified that there was no grease evident on the anti-rotation yoke key way or the exposed portion of the valve stem. Following lubrication, the valve was successfully stroke tested and the quarterly RCIC system surveillance test was completed satisfactorily. Therefore, Entergy personnel determined the cause of 13MOV-131 not fully opening was due to excessive running load, caused by the lack of lubrication, which resulted in the torque switch opening.

When 13MOV-131 did not fully open on January 7, 2011, a more extensive troubleshooting effort was undertaken by Entergy staff. This included static valve diagnostic testing and electrical inspections of the MOV and associated motor control circuit. As a result, the loose electrical connections in the MOV motor control circuit were identified; specifically, loose coil connections for control relays 42-1O (open circuit DC contactor), 42-2O (open circuit seal-in contactor), and 42-2C (close circuit seal-in contactor) were identified. The loose connections were tightened and no other deficiencies were identified during the troubleshooting. No further issues were identified during post-maintenance testing, which included dynamic valve diagnostic testing and performance of the quarterly RCIC system surveillance test. The issue was entered into the CAP as CR-JAF-2011-00123.

Entergy staff concluded that the high resistance (loose) connection for open circuit seal-in contactor 42-2O was the cause of the intermittent failure of 13MOV-131 to fully open. When energized, current flow through the loose connection would cause its resistance to increase due to heating, and the resultant decreasing current flow would eventually cause the coil to drop out. Given this failure mechanism, Entergy staff concluded that the time for coil drop out to occur was repeatable; this was supported by the actual

opening times during the two partial valve opening occurrences. Since the RCIC pump achieved rated discharge flow and pressure on both occasions that 13MOV-131 failed to fully open, the inspectors concluded that RCIC remained capable of performing its design function during the period that this condition existed.

The inspectors reviewed the original and revised LER, along with the associated CRs, apparent cause evaluations, and work documents. The inspectors concluded that test data was consistent with Entergy staff's final postulated failure mechanism and conclusion that the RCIC system had remained capable of performing its design function throughout the period that the problem existed. However, the inspectors identified that the troubleshooting for the October 29, 2010 valve failure focused primarily on the stem lubrication issue, rather than to thoroughly evaluate the overall mechanical and electrical condition of 13MOV-131, as would be appropriate for a critical component in a risk significant system. As a result, Entergy personnel assumed that they had corrected the problem when the valve was successfully stroked following stem lubrication. The inspectors determined that, had the as-found characterization by Entergy personnel included static valve diagnostic testing (which, based on the final postulated failure mechanism, would have been completed satisfactorily), this erroneous conclusion would have been avoided. The inspectors concluded that the inadequate scope of the October 29, 2010 troubleshooting plan for 13MOV-131 resulted in failure to identify the actual cause of the valve's incomplete opening problem. Consequently, the Limiting Condition for Operation (LCO) 3.5.3, "RCIC System," was exceeded since the system was not restored to operable status within 14 days and the Unit was not placed in Mode 3 within 12 hours and steam dome pressure reduced to less than or equal to 150 psig within 36 hours, prior to resolution of the problem.

Analysis: The inspectors determined that the inadequate scope of troubleshooting performed in response to the October 29, 2010 partial opening of 13MOV-131 was a performance deficiency that was within FitzPatrick staff's ability to foresee and correct. The finding was more than minor because it affected the equipment performance attribute of the Mitigating Systems cornerstone objective to ensure the reliability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the loose electrical connections in the 13MOV-131 motor control circuit affected the reliability of the RCIC system. The inspectors reviewed testing results and concluded that the failure of 13MOV-131 did not prevent the RCIC pump from achieving rated discharge flow and pressure and the pump remained capable of performing its design function during the period that the condition existed. The inspectors evaluated the finding using the Phase 1, "Initial Screening and Characterization of Findings," worksheet in Attachment 4 to IMC 0609, "Significance Determination Process." The inspectors determined this finding was not a design qualification deficiency resulting in a loss of functionality or operability, did not represent an actual loss of safety function of a system or train of equipment, and was not potentially risk significant due to a seismic, fire, or severe weather initiating event. Therefore, the inspectors determined the finding to be of very low safety significance (Green).

The finding had a cross-cutting aspect in the area of Human Performance, work control, because Entergy personnel did not appropriately plan the 13MOV-131 troubleshooting activity by incorporating consideration of the high risk significance of the RCIC system [H.3(a)].

Enforcement: 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," states, in part, "Measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformance are promptly identified and corrected." Contrary to the above, following a failure of the RCIC steam admission valve, 13MOV-131, to fully open on demand on October 29, 2010, the cause of the equipment malfunction was not identified and corrected by Entergy staff until after a second failure of the valve to fully open on January 7, 2011. The inadequate scope of troubleshooting performed by Entergy staff in response to the October 29, 2010 partial opening of 13MOV-131 also resulted in the LCO 3.5.3 being exceeded because the RCIC system was not restored to operable status within 14 days or be in Mode 3 within 12 hours and reduce steam dome pressure to less than or equal to 150 psig within 36 hours. Because this issue is of very low safety significance (Green) and Entergy personnel entered this issue into their CAP as CR-JAF-2011-00123, this finding is being treated as an NCV consistent with the NRC Enforcement Policy. **(NCV 05000333/2011005-04, Ineffective Corrective Action for RCIC Steam Admission Valve Malfunction)** This LER and its supplement are closed.

.2 (Closed) LER 05000333/2011003-00, Safety Relief Valve Setpoints Outside of Allowable Tolerances

On June 8, 2011, Entergy personnel determined the plant operated during the previous operating cycle (Cycle 19) with less than nine operable safety relief valves (SRVs) as required by TS 3.4.3, "Safety/Relief Valves." TS 3.4.3 requires nine operable SRVs when in Modes 1, 2 or 3. Entergy personnel had removed all 11 SRV pilot assemblies during the previous R-19 and identified that five SRV pilot assemblies had as-found lift setpoints outside the tolerance limits allowed by TS 3.4.3.1. Additionally, due to test equipment limitations, two SRV pilot assemblies could not be tested for set point drift due to excessive pilot valve seat leakage. Entergy staff's root cause analyses for previous SRV setpoint drift and pilot valve seat leakage issues determined that the most probable cause of the out of tolerance SRV setpoints was corrosion bonding between the SRV pilot disc and seat, which has been an industry generic problem.

Although Entergy staff has identified occurrences of SRV setpoint drift during each refueling outage since 2000, the inspectors determined that this most recent occurrence did not constitute a violation of 10 CFR Part 50, Appendix B, Criterion XVI, for ineffective corrective action. The issue of 2-stage SRV setpoint drift due to pilot valve corrosion bonding has been a long standing industry generic problem, for which there is no single identified corrective action. Entergy staff has previously instituted a number of recommended strategies to correct the problem, such as installation of Stellite 21 pilot discs, installation of an electric lift system, and use of enhanced SRV insulation. Most recently (during R-19), the station implemented a phased replacement of 2-stage SRVs with 3-stage SRVs. The inspectors considered that this modification represented a substantial corrective action that was implemented after the previous occurrence of SRV drift in 2008, the effectiveness of which cannot yet be characterized.

The failure of SRVs to operate within allowable tolerances describe in this LER constituted a licensee-identified finding involving a violation of TS 3.4.3, "Safety Relief Valves." The enforcement aspects of the violation are discussed in Section 40A7. This LER is closed.

4OA6 Meetings, Including Exit

Exit Meeting Summary

The inspectors presented the inspection results to Mr. M. Colomb and other members of Entergy management at the conclusion of the inspection on January 23, 2012. The inspectors asked Entergy personnel whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified by Entergy personnel.

4OA7 Licensee-Identified Violations

The following violation of very low safety significance (Green) was identified by the licensee and is a violation of NRC requirements which meets the criteria of the NRC Enforcement Policy for being dispositioned as an NCV.

- TS 3.4.3 requires that at least nine SRVs shall be operable in operating modes 1, 2, and 3. Contrary to this, on June 8, 2011, Entergy personnel identified that the plant had operated in these modes during Cycle 19 with less than nine operable SRVs. Entergy personnel documented this condition in CR-JAF-2011-03011. The inspectors determined this TS violation was of very low safety significance (Green) because it did not result in the loss of the overpressure relief safety function based on operability of the electric lift system.

ATTACHMENT: SUPPLEMENTARY INFORMATION

Enclosure

SUPPLEMENTARY INFORMATION

KEY POINTS OF CONTACT

Entergy Personnel

M. Colomb, Site Vice President
 B. Sullivan, General Manager, Plant Operations
 C. Adner, Manager, Operations
 V. Bacanskas, Manager, Design Engineering
 C. Brown, Manager, Quality Assurance, Entergy
 R. Brown, Acting Manager, Radiation Protection
 B. Finn, Director, Nuclear Safety Assurance
 D. Koelbel, Sr. Engineer, Fire Protection
 G. Sullivan, Acting Manager, Security
 J. Pechacek, Manager, Licensing
 D. Poulin, Manager, System Engineering
 T. Raymond, Manager, Project Management
 M. Reno, Manager, Maintenance
 P. Scanlan, Manager, Programs and Components Engineering
 M. Woodby, Director, Engineering

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened/Closed

05000333/2011005-01	NCV	Mode Switch in Shutdown Scram Function Inoperable in Excess of the TS Allowed Outage Time due to Personnel Error (Section 1R13)
05000333/2011005-02	FIN	Inadequate Work Planning for 'A' Reactor Recirculation Pump Replacement (Section 2RS2)
05000333/2011005-03	NCV	Failure to Follow Radiation Protection Procedures (Section 2RS2)
05000333/2011005-04	NCV	Ineffective Corrective Action for RCIC Steam Admission Valve Malfunction (Section 4OA3)

Closed

05000333/2011001-00 and -01	LER	Reactor Core Isolation Cooling System Inoperable Longer than Allowed by Technical Specifications (Section 4OA3)
05000333/2011003-00	LER	Safety Relief Valve Setpoints Outside of Allowable Tolerances (Section 4OA3)

Discussed

None

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

Procedures:

AOP-13, "High Winds, Hurricanes and Tornadoes," Revision 13
 AP-12.04, "Seasonal Weather Preparations," Revision 18
 OP-51A, "Reactor Building Ventilation and Cooling System," Revision 49

Documents:

DBD-092, "Design Basis Document for the EDG Building Heating and Ventilation System," Revision 6

Condition Reports:

CR-JAF-2011-05652

Section 1R04: Equipment Alignment

Procedures:

OP-19, "Reactor Core Isolation Cooling System," Revision 48
 OP-21, "Emergency Service Water," Revision 37
 OP-22, "Diesel Generator Emergency Power", Revision 57

Condition Reports

CR-JAF-2011-04768
 CR-JAF-2011-04770
 CR-JAF-2011-05159

Section 1R05: Fire Protection

Procedures:

OP-33, "Fire Protection," Revision 54
 PFP-PWR04, "Battery Room Complex/Elev 272', 282' Fire Area/Zone III/BR-1, BR-2, IV/BR-3, BR-4, XVI/BR-5," Revision 2
 PFP-PWR32, "Emergency Diesel Generator Spaces-North/Elev. 272' Fire Area/Zone VI/EG-3, EG-4. EG-6," Revision 3

PFP-PWR11, "Cable Spreading Room / Elev. 272' Fire Area/Zone VII/CS-1," Revision 2
PFP-PWR27, "Reactor Building / Elev. 344' Fire Area/Zone IX/RB-1A," Revision 4
PFP-PWR28, "Reactor Building / Elev. 369' Fire Area/Zone IX/RB-1A," Revision 7

Documents:

JAF-RPT-04-00478, "JAF Fire Hazards Analysis," Revision 2

Condition Reports:

CR-JAF-2011-05872

Section 1R07: Heat Sink Performance

Procedures:

EN-DC-316, "Heat Exchanger Performance and Condition Monitoring," Revision 3
ENN-SEP-HX-007, "JAF Heat Exchanger Program," Revision 0
SEP-SW-001, "FitzPatrick NRC Generic Letter 89-13 Service Water Program," Revision 1

Documents:

AP-19.12 Service Water Inspection data sheet for October 26, 2011 inspection of 'B' EDG jacket water cooler
EN-DC-316 Heat Exchanger Inspection Data Sheet for October 26, 2011 inspection of 'B' EDG jacket water cooler
Program Health Report, Heat Exchanger Program, third quarter 2011

Section 1R11: Licensed Operator Regualification Program

Procedures:

AOP-1, "Reactor Scram," Revision 44
AOP-3, "High Activity in Reactor Coolant or Off-Gas," Revision 16
AOP-4, "Explosion in Air Ejector Discharge Piping," Revision 5
AOP-32, "Unplanned Power Change," Revision 11
AOP-40, "Main Steam Line Break," Revision 10
AOP-62, "Loss of Feedwater Heating," Revision 10
EOP-2, "RPV Control," Revision 9
EOP-5, "Secondary Containment Control," Revision 8
EOP-6, "Radioactivity Release Control," Revision 8

Section 1R12: Maintenance Effectiveness

Procedures:

EN-DC-203, "Maintenance Rule Program," Revision 1
EN-DC-204, "Maintenance Rule Scope and Basis," Revision 2
EN-DC-205, "Maintenance Rule Monitoring," Revision 3
OP-37, "Containment Atmosphere Dilution System," Revision 79

Documents:

JAF-RPT-CAD-02312, "Maintenance Rule Basis Document System 27, Primary Containment Atmosphere Control and Dilution," Revision 11
JENG-11-0041, "Maintenance Rule (a)(1) Action Plan, Containment Air Dilution," Revision 0
JENG-11-0041, "Maintenance Rule (a)(1) Action Plan, Containment Air Dilution," Revision 1

Maintenance Rule Quarterly Report, third quarter 2011
 System Health Report, CAD, third quarter 2011
 System Health Report, EDG, third and second quarter 2011
 DBD-093, "Design Basis Document for the Emergency Diesel Generator (EDG)," Revision 11
 JAF-RPT-EDG-02303, "Maintenance Rule Basis Document System 93, Emergency Diesel Generator," Revision 9
 JAF-RPT-DGV-02301, "Maintenance Rule Basis Document System 92, Emergency Diesel Generator Ventilation," Revision 5

Condition Reports:

CR-JAF-2010-00298	CR-JAF-2010-00739	CR-JAF-2011-01943
CR-JAF-2010-01712	CR-JAF-2010-01270	CR-JAF-2011-02443
CR-JAF-2010-03871	CR-JAF-2010-03525	CR-JAF-2011-02733
CR-JAF-2011-02584	CR-JAF-2010-04660	CR-JAF-2011-02770
CR-JAF-2011-03964	CR-JAF-2010-05965	CR-JAF-2011-02834
CR-JAF-2010-00014	CR-JAF-2010-08533	CR-JAF-2011-02973
CR-JAF-2010-00310	CR-JAF-2011-00667	CR-JAF-2011-04873
CR-JAF-2010-00320	CR-JAF-2011-00689	CR-JAF-2011-04945

Work Orders:

285832

Section 1R13: Maintenance Risk Assessments and Emergent Work Control

Procedures:

AP-05.13, "Maintenance During LCOs," Revision 10
 AP-10.10, "On-Line Risk Assessment," Revision 7
 EN-WM-104, "On Line Risk Assessment," Revision 6

Section 1R15: Operability Determinations and Functionality Assessments

Procedures:

EN-LI-102, "Corrective Action Process," Revision 17
 EN-OP-104, "Operability Determination Process," Revision 5
 OP-43B, "24 VDC Power System," Revision 7
 ST-2XA, "RHR Service Water Loop A Quarterly Operability Test (IST) ST-2XA," Revision 13

Documents:

DBD-071 Tab III, "Design Basis Document for the Electrical Distribution System 125V and Turbine building rounds data December 10-16, 2011

Section 1R18: Plant Modifications

Procedures:

EN-DC-136, "Temporary Modifications," Revision 6
 OP-50, "Equipment and Floor Drain System," Revision 31
 ARP-09-4-1-20, "Rx Bldg Equip Sump B Temp Hi," Revision 2

Documents:

EC 30962, "Temporary Alarm Setpoint Change for 20TIS-534B Reactor Building Equipment Sump Temp"

Condition Reports:

CR-JAF-2011-05676

CR-JAF-2011-05677

Section 1R19: Post Maintenance TestingProcedures:

ISP-91-1(10600), "10600 Bus 4 kV Emergency Bus Degraded Voltage Timer Instrument Calibration," Revision 4

ST-24J, "RCIC Flow Rate and Inservice Test (IST)," Revision 41

ISP-19-2A, "Post Accident Off-Gas (Stack) High Range Radiation Monitor A Functional Test/Calibration," Revision 2

ST-9BA, "EDG A and C Full Load Test and ESW Pump Operability Test," Revision 12

ESP-22.004, "EDG B & D Fuel Oil Transfer Pump Operational Check," Revision 0

Condition Reports:

CR-JAF-2011-06244

CR-JAF-2011-05805

Section 2RS2: Occupational ALARA Planning and ControlsProcedures:

EN-RP-105, "Radiological Work Permits," Revision 10

EN-RP-110, "ALARA Program," Revision 8

EN-RP-110-01, "ALARA Initiative Deferrals," Revision 0

EN-RP-110-02, "Elemental Cobalt Sampling," Revision 0

EN-RP-110-03, "Collective Radiation Exposure (CRE) Reduction Guidelines," Revision 0

EN-RP-110-04, "Radiation Protection Risk Assessment Process," Revision 1

EN-RP-110-05, "ALARA Planning and Controls," Revision 0

EN-RP-110-06, "Outage Dose Estimating and Tracking," Revision 0

Condition Reports:

CR-JAF-2010-02871

CR-JAF-2010-05591

CR-JAF-2010-06909

CR-JAF-2010-03770

CR-JAF-2010-06018

CR-JAF-2011-04152

CR-JAF-2010-03884

CR-JAF-2010-06064

CR-JAF-2010-04833

CR-JAF-2010-06712

Section 2RS3: In-Plant Airborne Radioactivity Control and MitigationSCBAs:

<u>Case</u>	<u>Regulator ID</u>
120	2142
41	2157
18	2209
104	2188

Section 40A1: Performance Indicator VerificationDocuments:

JAF-RPT-05-00047, "Mitigating System Performance Index (MSPI) Basis Document,"
Revision 3

Condition Reports:

CR-JAF-2011-05721

Section 40A2: Identification and Resolution of ProblemsProcedures:

EN-LI-121, "Entergy Trending Process," Revision 10
 EN-DC-143, "Engineering Health Reports," Revision 13
 EN-DC-159, "System Monitoring Program," Revision 6
 EN-LI-102, "Corrective Action Process," Revision 17
 EN-OP-111, "Operational Decision Making Issue (ODMI) Process," Revision 6
 EN-OP-115, "Conduct of Operations," Revision 12
 EN-OP-115-07, "Component Deviations," Revision 0
 ISP-3-10, "Feedwater Control System - High Reactor Level Pump Trip Functional and
 Calibration," Revision 19

Documents:

James A. FitzPatrick Quarterly Trend Report, third quarter 2011
 Open Operational Decision Making Issues for 2011
 Closed Operational Decision Making Issues for 2011
 System Health Report, Recirculation System, second and third quarter 2011
 System Health Report, Neutron Monitoring, second and third quarter 2011
 Performance Summary System Engineering, November 2010 - November 2011
 Performance Summary Design Engineering, November 2010 - November 2011
 Performance Summary Operations, November 2010 - November 2011
 Performance Summary Maintenance, November 2010 - November 2011
 PMCR 10199, "Perform PMCR for Capacitors"
 JAFLO-2011-0012, Snapshot Assessment - System Health/Monitoring, March - April 2011
 JAFLO-2011-0068, Focused Self-Assessment - Conduct of Maintenance
 JAFLO-2011-0070, Focused Self-Assessment - Weakness in Operator Fundamentals
 JAFLO-2011-0002 Quarterly Trend Report Department Submittals

Condition Reports:

CR-JAF-2010-06572	CR-JAF-2011-06470	CR-JAF-2011-06472
CR-JAF-2011-01037	CR-JAF-2011-04043	CR-JAF-2011-05243
CR-JAF-2011-01166	CR-JAF-2011-04341	CR-JAF-2011-05245
CR-JAF-2011-01356	CR-JAF-2011-05125	CR-JAF-2011-05246
CR-JAF-2011-02316	CR-JAF-2011-05130	CR-JAF-2011-05973
CR-JAF-2011-03588	CR-JAF-2011-05241	CR-JAF-2011-06051
CR-JAF-2011-03820	CR-JAF-2011-05242	CR-JAF-2011-06095

Work Orders:

52332863	52332865	52332867
52332864	52332866	

LIST OF ACRONYMS

10 CFR	Title 10 of the Code of Federal Regulations
ACE	apparent cause evaluation
ADAMS	Agencywide Documents Access and Management System
ALARA	as low as reasonably achievable
APRM	average power range monitor
ARP	alarm response procedure
CAP	corrective action program
CR	condition report
DBD	design basis document
EC	engineering change
EDG	emergency diesel generator
Entergy	Entergy Nuclear Northeast
FitzPatrick	James A. FitzPatrick Nuclear Power Plant
HPCI	high pressure coolant injection
IMC	inspection manual chapter
IN	information notice
IST	in-service testing
kV	kilovolt
LCO	limiting condition for operation
LER	licensee event report
MG	motor-generator
MOV	motor operated valve
MSPI	mitigating systems performance index
NCV	non-cited violation
NEI	Nuclear Energy Institute
NIOSH	National Institute for Occupational Safety and Health
NRC	Nuclear Regulatory Commission
ODCM	Offsite Dose Calculation Manual
PARS	Publicly Available Records
PI	performance indicator
PM	preventive maintenance
PMT	post-maintenance testing
psig	pounds per square inch gauge
R	refueling outage
RB	reactor building
RCIC	reactor core isolation cooling
RETS	radiological effluent occurrences
RG	regulatory guide
RHR	residual heat removal
RPS	reactor protection system
RWP	radiation work permit

SCBA	self-contained breathing apparatus
SDP	significance determination process
SRV	safety relief valve
SSCs	structures, systems, or components
ST	surveillance test
SW	switch
TS	technical specification
TSC	technical support center
UFSAR	updated final safety analysis report
VDC	volt direct current
WO	work order